

AMENDMENT

In the Claims:

Please amend the claims as follows:

1. (Amended) A DNA segment comprising an isolated coding region that encodes a [substantially full length] P-TEFb subunit, wherein the coding region is characterized as:
- (a) encoding a [substantially full length] P-TEFb kinase subunit having the amino acid sequence of SEQ ID NO:2; or
- (b) encoding a [substantially full length] P-TEFb large subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50; or [as a substantially full length] a coding region that specifically hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48 [under stringent hybridization conditions].
2. (Amended) The DNA segment of claim 1, wherein said isolated coding region encodes a [substantially full length] P-TEFb kinase subunit having the amino acid sequence of SEQ ID NO:2.
3. (Amended) The DNA segment of claim [1] 2, wherein said isolated coding region has the nucleotide sequence from position 115 to position 1327 of SEQ ID NO:1.

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4. (Amended) The DNA segment of claim 1, wherein said isolated coding region encodes a [substantially full length] P-TEFb large subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50; or [as a substantially full length coding region that] wherein said isolated coding region specifically hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48 [under stringent hybridization conditions].

5. (Amended) The DNA segment of claim [1] 4, wherein said isolated coding region encodes a [substantially full length] P-TEFb large subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 and wherein said coding region specifically hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48 [under stringent hybridization conditions].

6. (Amended) The DNA segment of claim 4, wherein said isolated coding region encodes a [substantially full length] P-TEFb large subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

7. (Amended) The DNA segment of claim [6] 40, wherein said isolated coding region encodes a P-TEFb large subunit having the amino acid sequence of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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11. (Amended) The DNA segment of claim 4, wherein said isolated coding region [is a substantially full length coding region that] specifically hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48 [under stringent hybridization conditions].

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15. (Amended) The DNA segment of claim 1, wherein said DNA segment comprises a first coding region that encodes [a substantially full length] said P-TEFb kinase subunit and a second coding region that encodes [a substantially full length] said P-TEFb large subunit.

17. (Amended) The DNA segment of claim [16] 15, wherein said first coding region encodes a P-TEFb kinase subunit that has the amino acid sequence of SEQ ID NO:6.

18. (Amended) The DNA segment of claim 16, wherein said second coding region has the nucleotide sequence of SEQ ID NO:44, SEQ ID NO:46 or SEQ ID NO:49[, and wherein said first coding region has the nucleotide sequence of SEQ ID NO:5].

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19. (Amended) The DNA segment of claim 1, wherein said isolated coding region is operatively attached to a second coding region that encodes a selected peptide or protein sequence[,] so that said DNA segment [encoding] encodes a P-TEFb subunit fusion protein in which the P-TEFb subunit is linked to said selected peptide or protein.

23. (Amended) An expression system comprising:

- (a) a first expression unit comprising, under the transcriptional control of a promoter, a first coding region that encodes a [substantially full length] P-TEFb kinase subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:2 or SEQ ID NO:6 or that specifically hybridizes to the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:5; and
- (b) a second expression unit comprising, under the transcriptional control of a promoter, a second coding region that encodes a [substantially full length] P-TEFb large subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 or that specifically hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

31. (Amended) The recombinant host cell of claim 27, wherein said cell comprises a first DNA segment that encodes [a substantially full length] said P-TEFb kinase subunit and a second DNA segment that encodes [a substantially full length] said P-TEFb large subunit.

Please add new claims 33-⁶⁷~~74~~ as follows:

--33: The DNA segment of claim 6, wherein said isolated coding region encodes a P-TEFb large subunit that includes a contiguous sequence of at least about 10 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

~~34.~~ The DNA segment of claim 33, wherein said isolated coding region encodes a P-TEFb large
subunit that includes a contiguous sequence of at least about 14 amino acids from SEQ ID NO:4,
SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

~~35.~~ The DNA segment of claim 34, wherein said isolated coding region encodes a P-TEFb large
subunit that includes a contiguous sequence of at least about 20 amino acids from SEQ ID NO:4,
SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

~~36.~~ The DNA segment of claim 35, wherein said isolated coding region encodes a P-TEFb large
subunit that includes a contiguous sequence of at least about 30 amino acids from SEQ ID NO:4,
SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

~~37.~~ The DNA segment of claim 36, wherein said isolated coding region encodes a P-TEFb large
subunit that includes a contiguous sequence of at least about 50 amino acids from SEQ ID NO:4,
SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

~~38.~~ The DNA segment of claim 37, wherein said isolated coding region encodes a P-TEFb large
subunit that includes a contiguous sequence of at least about 100 amino acids from SEQ ID NO:4,
SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

~~39.~~ The DNA segment of claim 38, wherein said isolated coding region encodes a P-TEFb large
subunit that includes a contiguous sequence of at least about 150 amino acids from SEQ ID NO:4,
SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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40. The DNA segment of claim 39, wherein said isolated coding region encodes a P-TEFb large subunit that includes a contiguous sequence of at least about 200 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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41. The DNA segment of claim 18, wherein said second coding region has the nucleotide sequence of SEQ ID NO:44, SEQ ID NO:46 or SEQ ID NO:49, and wherein said first coding region has the nucleotide sequence of SEQ ID NO:5.

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42. The expression system of claim 23, wherein said first expression unit comprises a first coding region that encodes a P-TEFb kinase subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:2 or SEQ ID NO:6 and that specifically hybridizes to the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:5.

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43. The expression system of claim 23, wherein said first expression unit comprises a first coding region that encodes a P-TEFb kinase subunit that includes a contiguous sequence of at least about 10 amino acids from SEQ ID NO:2 or SEQ ID NO:6.

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44. The expression system of claim 43, wherein said first expression unit comprises a first coding region that encodes a P-TEFb kinase subunit that includes a contiguous sequence of at least about 20 amino acids from SEQ ID NO:2 or SEQ ID NO:6.

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45. The expression system of claim 44, wherein said first expression unit comprises a first coding region that encodes a P-TEFb kinase subunit that includes a contiguous sequence of at least about 50 amino acids from SEQ ID NO:2 or SEQ ID NO:6.

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46. The expression system of claim 45, wherein said first expression unit comprises a first coding region that encodes a P-TEFb kinase subunit that includes a contiguous sequence of at least about 100 amino acids from SEQ ID NO:2 or SEQ ID NO:6.

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47. The expression system of claim 46, wherein said first expression unit comprises a first coding region that encodes a P-TEFb kinase subunit that has the amino acid sequence of SEQ ID NO:2.

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48. The expression system of claim 46, wherein said first expression unit comprises a first coding region that encodes a P-TEFb kinase subunit that has the amino acid sequence of SEQ ID NO:6.

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49. The expression system of claim 23, wherein said first expression unit comprises a first coding region that specifically hybridizes to the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:5.

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50. The expression system of claim 49, wherein said first expression unit comprises a first coding region that has the nucleotide sequence from position 115 to position 1327 of SEQ ID NO:1.

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51. The expression system of claim 49, wherein said first expression unit comprises a first coding region that has the nucleotide sequence of SEQ ID NO:5.

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52. The expression system of claim 23, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 and that specifically hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

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53. The expression system of claim 23, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that includes a contiguous sequence of at least about 10 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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54. The expression system of claim 53, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that includes a contiguous sequence of at least about 20 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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55. The expression system of claim 54, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that includes a contiguous sequence of at least about 50 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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56. The expression system of claim 55, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that includes a contiguous sequence of at least about 100 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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57. The expression system of claim 56, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that has the amino acid sequence of SEQ ID NO:4.

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58. The expression system of claim 56, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that has the amino acid sequence of SEQ ID NO:45.

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59. The expression system of claim 56, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that has the amino acid sequence of SEQ ID NO:47.

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60. The expression system of claim 56, wherein said second expression unit comprises a second coding region that encodes a P-TEFb large subunit that has the amino acid sequence of SEQ ID NO:50.

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61. The expression system of claim 23, wherein said second expression unit comprises a second coding region that specifically hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48

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62. The expression system of claim 61, wherein said second expression unit comprises a second coding region that has the nucleotide sequence of SEQ ID NO:44.

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63. The expression system of claim 61, wherein said second expression unit comprises a second coding region that has the nucleotide sequence of SEQ ID NO:46.

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64. The expression system of claim 61, wherein said second expression unit comprises a second coding region that has the nucleotide sequence of SEQ ID NO:49.

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65. The recombinant host cell of claim 29, wherein said cell is a mammalian host cell.

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66. A recombinant host cell that comprises an expression system in accordance with claim 23.

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67. A DNA segment comprising an isolated coding region that encodes a P-TEFb subunit, wherein the coding region is characterized as:

- (a) encoding a P-TEFb kinase subunit having the amino acid sequence of SEQ ID NO:2; or

- (b) encoding a P-TEFb large subunit having the amino acid sequence of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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68. A DNA segment comprising an isolated coding region that encodes a P-TEFb subunit, wherein the coding region is characterized as:

- (a) encoding a P-TEFb kinase subunit having the amino acid sequence of SEQ ID NO:2; or
(b) encoding a P-TEFb large subunit and specifically hybridizing to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

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69. A DNA segment comprising an isolated coding region that encodes a P-TEFb subunit, wherein the coding region is characterized as:

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- (a) encoding a P-TEFb kinase subunit and having the nucleotide sequence from position 115 to position 1327 of SEQ ID NO:1; or
(b) encoding a P-TEFb large subunit and having the nucleotide sequence of SEQ ID NO:44, SEQ ID NO:46 or SEQ ID NO:49.

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An expression system comprising:

- (a) a first expression unit comprising a promoter that expresses a first coding region that encodes a P-TEFb kinase subunit that has the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:6; and
- (b) a second expression unit comprising a promoter that expresses a second coding region that encodes a P-TEFb large subunit that has the amino acid sequence of SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50.

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An expression system comprising:

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- (a) a first expression unit comprising a promoter that expresses a first coding region that encodes a P-TEFb kinase subunit and that specifically hybridizes to the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:5; and
 - (b) a second expression unit comprising a promoter that expresses a second coding region that encodes a P-TEFb large subunit and that specifically hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48.

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An expression system comprising:

- (a) a first expression unit comprising a promoter that expresses a first coding region that encodes a P-TEFb kinase subunit and that has the nucleotide sequence from position 115 to position 1327 of SEQ ID NO:1 or the nucleotide sequence of SEQ ID NO:5; and
- (b) a second expression unit comprising a promoter that expresses a second coding region that encodes a P-TEFb large subunit and that has the nucleotide sequence of SEQ ID NO:44, SEQ ID NO:46 or SEQ ID NO:49.

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A DNA segment comprising an isolated coding region that encodes a substantially full length P-TEFb subunit, wherein the coding region is characterized as:

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- (a) encoding a substantially full length P-TEFb kinase subunit having the amino acid sequence of SEQ ID NO:2; or
 - (b) encoding a substantially full length P-TEFb large subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50; or as a substantially full length coding region that hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48 under stringent hybridization conditions.

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An expression system comprising:

- (a) a first expression unit comprising, under the transcriptional control of a promoter, a first coding region that encodes a substantially full length P-TEFb kinase subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:2 or SEQ ID NO:6 or that hybridizes to the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:5 under stringent hybridization conditions; and
- (b) a second expression unit comprising, under the transcriptional control of a promoter, a second coding region that encodes a substantially full length P-TEFb large subunit that includes a contiguous sequence of at least about 7 amino acids from SEQ ID NO:4, SEQ ID NO:45, SEQ ID NO:47 or SEQ ID NO:50 or that hybridizes to the nucleotide sequence of SEQ ID NO:3, SEQ ID NO:43 or SEQ ID NO:48 under stringent hybridization conditions. --.
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Included

REMARKS

I. Status of the Claims

Prior to the instant Action, claims 1-32 were pending and have been examined. Presently, each of claims 1-7, 11, 15, 17-19, 23 and 31 are being amended to even further improve their clarity. No claims are being canceled. Claims 33-74 have been added, which are entirely supported by the original disclosure.

Claims 1-74 are therefore in the case. For the convenience of the Examiner, two claims exhibits are included herewith. **Exhibit A** shows the pending claims in numerical order, whereas **Exhibit B** presents the pending claims in a logical order for ease of examination and allowance.